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A new *Asplenium*, hitherto referred to *A. Trichomanes* var.
incisum Moore*

By WILLIAM R. MAXON

Asplenium vespertinum

Rhizome short, sub-erect, rootlets rather coarsely fibrous : stipes purplish brown, shining, closely tufted, slender, terete, from 1.2–3.5 cm. long ; scales small, those at base of stipe dark, lance-acuminate, serrate, those above blackish, filiform, scattered or almost wanting : lamina linear, 7.5–22.5 cm. long : pinnae 20–30 pairs, sub-opposite to alternate, sub-sessile, oblong-linear to oblong; or even rhomboidal, somewhat reduced, reflexed and cordate-clasping below, the margins regularly and coarsely crenate-serrate, each lobe containing a simple vein ; pinnae more or less auricled above at the base, the vein once or twice forked : sori rather short, 8–12 to the pinna, an odd one often borne on the auricle ; indusium glabrous, regularly crenate ; sporangia cinnamon-brown ; annulus with 20 or more joints ; spores dark brown, ovoid, the winged ridges rather closely reticulated.

Type specimen in the U. S. National Herbarium, no. 201581, collected on San Miguel Mountain, near National City, San Diego County, California, about Feb. 1, 1900, by Miss Laura F. Kimball of National City. Other specimens which I have examined and would refer to this species are the following :

In U. S. Nat. Herb.: no 299603, "San Diego, Cal., D. Cleveland" ; nos. 238082, 311552, "Santa Ysabel (San Diego Co.), Cal., April 29, 1893, H. W. Henshaw" ; no. 220713, "Near San Rafael (Lower California), Mexico, April 13, 1882, Marcus E. Jones, 3749."

In herb. D. C. Eaton : "San Diego, Cal., Miss Barbeck, 1879 ;" "Near Poway, San Diego County, Cal., Wm. Stout, 1878 ;" "Tufts under rocks, Cajon Pass (San Bernardino County), near San Diego Mission, California, Nov. 9, 1857, Dr. Newberry ;" "1881, C. C. Parry," probably collected in the vicinity of San Diego.

In herb. A. A. Eaton, Seabrook, N. H.: "Witch Creek, San

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Diego County, California, 1895, R. D. Alderson ;" "San Miguel Mountain, San Diego County, Cal., Laura F. Kimball."

In herb. A. J. McClatchie, Phoenix, Arizona : "San Gabriel Mountains, near Pasadena (Los Angeles County), Cal., A. McClatchie."*

In herb. Sadie F. Price, Bowling Green, Ky. : "Rancho de la Nacion, near National City, Cal., 1892, L. F. Kimball."

Its range then extends from Los Angeles and San Bernardino Counties, Cal., southward into the peninsula of Lower California. Miss Kimball finds it under overhanging rocks in the smaller cañons, mostly where there is considerable moisture, though occasionally in situations more exposed to the sun.

My attention was first called to this excellent species by observing several sheets of it in the National Herbarium labeled *Asplenium Trichomanes incisum* Moore. Upon examining Moore's figure of the variety *incisum*,† I was convinced that they were by no means referable to this variety ; and a subsequent examination of typical *incisum* contributed by Moore to the Eaton Herbarium confirmed this belief. Since the Pacific coast "*incisum*" seems altogether distinct from any previously described species, I have ventured to assign to it the specific name *vespertinum*, in allusion to its distribution on the western coast.

The variety *incisum* of Moore is nothing more than an extremely foliose, deeply incised form of the common maidenhair spleenwort, comparable to the variety *cambricum* of *Polypodium vulgare*, and like that variety always sterile. The only true *incisum* I have seen from the United States is that collected by Mr. C. C. Frost, near West Brattleboro, Vermont, in 1874, fronds of which are preserved in the Eaton Herbarium and in the private herbarium of Dr. A. J. Grout. They agree closely with typical material of *incisum* and are not to be distinguished from it. Mr. A. A. Eaton has sent me specimens of *A. Trichomanes*, collected in Tennessee by Mr. J. H. Ferris, which show considerable approach toward *incisum*, but which, together with some fronds from Bethany, West Virginia, collected by Mr. G. Guttenberg in 1877, and preserved in the Eaton Herbarium, are merely incised forms of typical *A. Trichomanes*.

* Recorded by A. J. McClatchie, *Erythea*, 2 : 76. 1894.

† Thomas Moore, *Nat. Pr. Brit. Ferns*, 2 : 102. *pl. 76. f. A.* 1859.

Professor Eaton figures, as var. *incisum* Moore, one of Frost's fronds, but he remarks that this variety "is frequently collected near San Diego, Cal., where the type [*A. Trichomanes*] does not seem to occur" and adds that "it has slightly larger fronds and pinnae somewhat less incised."* As stated, it appears that *A. Trichomanes* does not occur in southern California; and how the material which *does* occur there could be referred to the var. *incisum* is hard to comprehend. Some of the stouter specimens of *vespertinum* in general appearance bear a certain resemblance to *Asplenium blepharodes* Eaton, described † from Lower California; but the long jointed cilia, which thickly fringe the indusium of that species, at once distinguish it from *vespertinum*, in which the indusium is smooth and merely crenate. In addition, *vespertinum* invariably has the pinnae much more coarsely serrate; and its sori are short, of a light color, and number from 6-12 (13), while *blepharodes* bears from 6-8 larger, more oblique sori. The spores of *vespertinum* appear to be more closely reticulated than those of *blepharodes*, and the winged ridges slightly narrower. The spores of both species present striking differences from those of *Trichomanes*, in which the winged ridges are greatly reduced or apparently lacking and the surface warty-punctulate or papillose. The most noticeable feature, however, distinguishing *vespertinum* from *Trichomanes*, is the constancy of the coarse serrations of the pinnae.

In conclusion I desire to extend my thanks to those who have kindly loaned me specimens for study, to Professor L. M. Underwood and Mr. C. L. Pollard for a number of suggestions and references, and especially to Miss Laura F. Kimball for the excellent living plants of this species now growing in the Botanical Garden in this city and from which the greater part of the specific description has been drawn.

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* Eaton, Ferns N. Am. 1: 271, 273, 274. *pl.* 36. *f.* 3. 1879.

† D. C. Eaton, Zoe, 1: 197. *pl.* 7. 1890. The type specimen, in Herb. D. C. Eaton, has been kindly loaned me by Professor A. W. Evans.